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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference p13593/OLL	**FOR FURTHER ACTION**	See Form PCT/IPEA/416
International application No. PCT/EP2004/050910	International filing date *(day/month/year)* 25.05.2004	Priority date *(day/month/year)* 19.06.2003
International Patent Classification (IPC) or national classification and IPC H04L12/56, H04M1/60		
Applicant SONY ERICSSON MOBILE COMMUNICATIONS AB ET AL.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
   a. ☒ *sent to the applicant and to the International Bureau)* a total of 7 sheets, as follows:
      ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the International application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒	Box No. I	Basis of the opinion
☐	Box No. II	Priority
☐	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☐	Box No. IV	Lack of unity of invention
☒	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐	Box No. VI	Certain documents cited
☐	Box No. VII	Certain defects in the international application
☐	Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
15.03.2005	09.11.2005
Name and mailing address of the international preliminary examining authority: European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Brezmes Alonso, F Telephone No. +31 70 340-4946

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/050910

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:

   ☐ international search (under Rules 12.3 and 23.1(b))
   ☐ publication of the international application (under Rule 12.4)
   ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1, 2, 4-15	as originally filed
3, 3a	received on 15.03.2005 with letter of 09.03.2005

Claims, Numbers

1-43	received on 15.03.2005 with letter of 09.03.2005

Drawings, Sheets

1/3-3/3	as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

   ☐ the description, pages
   ☐ the claims, Nos.
   ☐ the drawings, sheets/figs
   ☐ the sequence listing *(specify)*:
   ☐ any table(s) related to sequence listing *(specify)*:

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

   ☐ the description, pages
   ☐ the claims, Nos.
   ☐ the drawings, sheets/figs
   ☐ the sequence listing *(specify)*:
   ☐ any table(s) related to sequence listing *(specify)*:

* *If item 4 applies, some or all of these sheets may be marked "superseded."*

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	
	No:	Claims	1-43
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-43
Industrial applicability (IA)	Yes:	Claims	1-43
	No:	Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following document:

D1: US 2003/032460 A1 (CANNON JOSEPH M ET AL) 13 February 2003 (2003-02-13)

2 INDEPENDENT CLAIM 1

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parenthesis applying to this document):

A method of controlling connection between a plurality of connectable devices (see page 2, paragraph 22, line 1), comprising the steps of:

selecting a first device having a predetermined identity and associated individual indicia for connection to a second device (see page 3, paragraph 40, line 3-6);

characterised in the steps of:

outputting said associated individual indicia in a manner that is observable as a feedback signal by a user in response to said first device being selected for connection to said second device (see page 3, paragraph 40, lines 6-9).

3 INDEPENDENT CLAIM 36

The same reasoning as made in the above paragraph regarding independent claim 1 applies, mutatis mutandis, to the subject-matter of the corresponding independent claim 36, which therefore is also considered not new (Article 33(2) PCT) and hence said claim is not allowable.

4 DEPENDENT CLAIMS 2-35, 37-43

Dependent claims 2-35, 37-43 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT) for the reason that the subject-matter of said claims is disclosed in document D1 or represents simple details which are known to the person skilled in the field of wireless communications.

The patent publication US 2003/0032460 to Cannon et al shows an example of wireless phones connected to a hands-free device in a car. This piece of prior art provides a hands-free gateway devised to identify and give priority to a user that is detected or identified as the driver of the car.

Bluetooth device finds within a specific range other Bluetooth devices that include matching PIN or pass code. However, this technique is directed to the connection of one at a time of a plurality of devices that are connectable to an accessory.

There are products available on the market for wirelessly connecting a stationary mounted hands free system with a mobile telephone unit. An example of such a product is the Sony Ericsson Bluetooth™ Car Handsfree HCB-30, which currently is shown on the www.sonyericsson.com Internet website. This hands free equipment communicates with a telephone unit via a short range radio communication according to the above mentioned standard technology that goes under the trademark Bluetooth™. The user controls basic functions of the telephone via a keypad mounted on the dashboard and designed as a five button control panel configured to activate the telephone, to control loudspeaker volume, and to answer or reject calls. Another similar product is the Sony Ericsson Advanced Car Handsfree HCA-20, also currently shown on the www.sonyericsson.com Internet website. The HCA-20 is further provided with means for voice recognition to enable voice dialing as a means for controlling the telephone. It also has functionality for muting a car stereo for incoming calls. These products are examples of such devices that the invention concerns. _/ Page 3a _/

Problem to be Solved by the Invention

The general problem that the invention seeks to solve is to achieve a user interface with an improved procedure for controlling connection of a first device to a selectable second device among of a plurality of selectable devices.

An aspect of the problem is directed to controlling the connection of an accessory device to one of a plurality of selectable main devices.

An aspect of the problem deals with hands free equipment that communicates wirelessly with a telephone unit, for example by means of short range radio communication such as Bluetooth™ technology. This aspect of the problem concerns the problem of alleviating the complex re-pairing and re-connecting process that occurs as soon as a plurality of different telephones are used with the same hands free equipment. In particular, it is a problem aspect that several time consuming key-presses are needed on the hands free accessory as well as on the telephone.

Another aspect of the problem is that it may occur that the user forgets to re-connect his device to the accessory or does not know that another device has been connected. For example in the case with a car hands free accessory it may occur that several of the alternating telephones are within communication range from the hands free accessory, and the user will not know which telephone he is using. Yet another aspect of the problem is that if the user realizes the fact that he is connected to the wrong telephone in a driving situation, he might be tempted to perform the re-connecting process while di AMENDED SHEET iger to the driving safety.

CLAIMS

1. A method of controlling connection between a plurality of connectable devices, comprising the steps of:

selecting a first device having a predetermined identity and associated individual indicia for connection to a second device;

characterised in the steps of:

outputting said associated individual indicia in a manner that is observable as a feedback signal by a user in response to said first device being selected for connection to said second device.

2. The method of the preceding claim, further comprising the step of associating said first device with selectable indicia.

3. The method of any of the preceding claims, further comprising the step of outputting said indicia in response to a command for selecting said first device for connection to said second device.

4. The method of any of the preceding claims, further comprising the step of storing the device identity linked with connection parameters for said first device and with control data for outputting the associated indicia of said first device.

5. The method of any of the preceding claims, further comprising the steps of:
- changing from outputting first indicia associated with a first device to outputting second indicia associated with a second device in response to an input change signal; and
– establishing a selection for connection of said second device.

6. The method of any of the preceding claims, further comprising the step of changing from selecting a first connectable device and outputting the indicia of said first device to selecting a second connectable device and outputting the indicia of said second device in response to receiving an input change signal.

7. The method of any of the preceding claims, further comprising the step of performing a re-connection process for connecting a selected first device to a second device.

8. The method of any of the preceding claims, further comprising the step of defining, in a pairing process, connectability parameters for connecting a first device to a second device.

9. The method of any of the preceding claims, wherein connectability of a plurality of devices is defined and associated individual indicia as well as individual connection parameters are stored linked with the device identity of each of said devices.

10. The method of any of the preceding claims, wherein indicia of a first device to be output from a second device are stored in the first device and is communicated to the second device.

11. The method of the any of the preceding claims, further comprising the step of storing a predetermined order of priority for selecting for connection each of a plurality of connectable devices.

12. The method of any the preceding claims, further comprising the step of storing a predetermined order of priority for selecting for connection each of a plurality of connectable devices, wherein said order of priority is based on a last selected first to use scheme.

13. The method of the preceding claim, wherein a record of the last time selected is stored linked to each of said connectable device identities.

14. The method of the preceding claim, further comprising the steps of, after an interrupted connection, outputting the indicia of the device that was last selected and selecting for connection to said last selected device.

15. The method of the preceding claim, further comprising the steps of, in response to receiving an input change signal, outputting the indicia associated with the next device in a falling order of last selected and selecting for connection to said next device.

16. The method of any the preceding claims, further comprising the step of storing a predetermined order of priority for selecting for connection each of a plurality of connectable devices, wherein said order of priority is based on an individual fixed priority that is associated with each of said connectable devices.

17. The method of the preceding claim, wherein a record of a fixed priority is stored linked to each of said connectable device identities.

18. The method of the preceding claim, further comprising the steps of, after an interrupted connection, outputting the indicia of the device that has the highest fixed priority

and selecting for connection to said highest priority device.

19. The method of the preceding claim, further comprising the steps of, in response to receiving an input change signal, outputting the indicia associated with the next device in a falling order of fixed priority and selecting for connection to said next device.

20. The method of any of the preceding claims, further comprising the step of storing a combination of a first predetermined order of priority for selecting for connection a plurality of connectable devices, wherein said first order of priority is based on an individual fixed priority that is associated with a first number of connectable devices, and a second predetermined order of priority for selecting for connection each of a plurality of connectable devices, wherein said second order of priority is based on a last used first to use scheme for a second number of connectable devices.

21. The method of any of the preceding claims, wherein the indicia associated with a device is selectable in response to a predetermined sequence of input control signals.

22. The method of any of the preceding claims, wherein the indicia is associated with a fixed position in a predetermined order of priority and the fixed position is associated with a predetermined device.

23. The method of any of the preceding claims, wherein the indicia is visible and is output by means of a visible signal output device.

24. The method of any of the preceding claims, wherein the indicia is a colour that is output by means of a colour emitting device.

25. The method of any of the preceding claims, wherein the indicia is a visible symbol that is output by means of a display.

26. The method of any of the preceding claims, wherein the indicia is a combination of characters that is output by means of a display.

27. The method of any of the preceding claims, wherein the indicia are audible and is output by means of a sound emitting device.

28. The method of any of the preceding claims, wherein the indicia are tactile and is output by means of a sensory detectable stimulation device.

29. The method of any of the preceding claims, wherein the devices are connected by means of a wireless communication link.

30. The method of any of the preceding claims, wherein the devices are connected by means of a short range radio communication link.

31. The method of any of the preceding claims, wherein the devices are connected by means of a wired communication link.

32. The method of any of the preceding claims, wherein one of said devices is an accessory to which a plurality of other devices are connectable.

33. The method of the preceding claims, wherein the accessory is a hands free equipment and the devices are mobile telephones.

34. The method of claim 1, adapted for controlling connection between a plurality of telephone devices and a hands free device; comprising the steps of:

associating individual indicia with an identifiable telephone device;

outputting said indicia from said hands free device in response to said identifiable telephone device being selected for connection to said hands free device.

35. The method of the preceding claim, wherein the indicia is coloured light.

36. An apparatus for controlling connection between a plurality of connectable devices, said apparatus:

being adapted to define connectability parameters for connecting a first device having a predetermined identity and associated individual indicia to a second device; and

comprising means for selecting said first device for connection to said second device;

characterised in

an output device operable to output said associated individual indicia in a manner that is observable as a feedback signal by a user when said first device is selected for connection to said second device.

37. The apparatus of claim 36, further comprising a device operable to associate individual indicia to said first device;

38. The apparatus of claim 36, further comprising a data storage adapted for storing the device identity linked with connection parameters for said device and with control data for outputting the associated indicia of said device.

39. The apparatus of claim 36, further being adapted to change from selecting for connection a first connectable device and outputting the indicia of said first device to selecting for connection a second connectable device and outputting the indicia of said second device in response to receiving an input change signal from a signal input switch.

40. The apparatus of the preceding claim, further being adapted to perform a re-connection process for connecting a selected first device to a second device.

41. The apparatus of any the preceding claims 36-40, further being adapted to perform the steps or further comprising the features of any of the preceding claims 1-35.

42. The apparatus of any the preceding claims 36-41, further being adapted for controlling connection between a plurality of telephone devices and a hands free device; and comprising:

a device operable to associate individual indicia with an identifiable telephone device; and

an output device operable to output said indicia from said hand free device in response to said identifiable device being selected for connection to said hands free device.

43. The apparatus of the preceding claim, wherein the indicia is coloured light output by means of a light emitting diode (LED).